

(b) Threads for openings must be National Gas Taper Threads (NGT) tapped to gauge, clean cut, even and without checks. Taper threads must comply with §178.61(h)(3)(i) and (h)(3)(ii). Threads for the clean-out/inspection ports of DOT Specification 110A multi-unit tank car tanks may be straight threads instead of taper threads. The straight threads must meet the requirements of §178.61(h)(3)(i) and (h)(3)(iii). Hex plugs may be secured to threaded boss ports using stainless steel safety wire that must not fail during its intended use.

[29 FR 18995, Dec. 29, 1964, unless otherwise noted. Redesignated at 32 FR 5606, Apr. 5, 1967. Amended at 77 FR 37986, June 25, 2012]

§ 179.300–14 Attachments not otherwise specified.

Siphon pipes and their couplings on the inside of the tank head and lugs on the outside of the tank head for attaching the valve protective housing must be fusion-welded in place prior to postweld heat treatment. All other fixtures and appurtenances, except as specifically provided for, are prohibited.

[Amdt. 179–10, 36 FR 21355, Nov. 6, 1971]

§ 179.300–15 Pressure relief devices.

(a) Unless prohibited in part 173 of this subchapter, tanks shall be equipped with one or more relief devices of approved type, made of metal not subject to rapid deterioration by the lading and screwed directly into tank heads or attached to tank heads by other approved methods. The total discharge capacity shall be sufficient to prevent building up pressure in tank in excess of 82.5 percent of the tank test pressure. When relief devices of the fusible plug type are used, the required discharge capacity shall be available in each head. See AAR Specifications for Tank Cars, appendix A (IBR, see §171.7 of this subchapter), for the formula for calculating discharge capacity.

(b) Threads for openings shall be National Gas Taper Threads (NGT) tapped to gage, clean cut, even and without checks.

(c) Pressure relief devices shall be set for start-to-discharge and rupture discs

shall burst at a pressure not exceeding that specified in §179.301.

(d) Fusible plugs shall function at a temperature not exceeding 175 °F. and shall be vapor-tight at a temperature of not less than 130 °F.

[29 FR 18995, Dec. 29, 1964, as amended at 64 FR 51920, Sept. 27, 1999; 66 FR 45390, Aug. 28, 2001; 68 FR 75763, Dec. 31, 2003]

§ 179.300–16 Tests of tanks.

(a) After postweld heat treatment, tanks shall be subjected to hydrostatic expansion test in a water jacket, or by other approved methods. No tank shall have been subjected previously to internal pressure within 100 pounds of the test pressure. Each tank shall be tested to the pressure prescribed in §179.301. Pressure shall be maintained for 30 seconds and sufficiently longer to insure complete expansion of tank. Pressure gage shall permit reading to accuracy of one percent. Expansion gage shall permit reading of total expansion to accuracy of one percent. Expansion shall be recorded in cubic cm.

(1) No leaks shall appear and permanent volumetric expansion shall not exceed 10 percent of total volumetric expansion at test pressure.

(2) [Reserved]

(b) After all fittings have been installed, each tank shall be subjected to interior air pressure test of at least 100 psig under conditions favorable to detection of any leakage. No leaks shall appear.

(c) Repairs of leaks detected in manufacture or in foregoing tests shall be made by the same process as employed in manufacture of tank. Caulking, soldering, or similar repairing is prohibited.

[29 FR 18995, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 179–10, 36 FR 21355, Nov. 6, 1971; 66 FR 45390, Aug. 28, 2001]

§ 179.300–17 Tests of pressure relief devices.

(a) Each valve shall be tested by air or gas before being put into service. The valve shall open and be vapor-tight at the pressure prescribed in §179.301.

(b) Rupture disks of non-reclosing pressure relief devices must be tested and qualified as prescribed in appendix A, Paragraph 5, of the AAR Manual of

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Standards and Recommended Practices, Section C—Part III, AAR Specifications for Tank Cars (IBR, see § 171.7 of this subchapter).

(c) For pressure relief devices of the fusible plug type, a sample of the plug used shall function at the temperatures prescribed in § 179.300–15.

(d) The start-to-discharge and vapor-tight pressures shall not be affected by any auxiliary closure or other combination.

[29 FR 18995, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 179–10, 36 FR 21355, Nov. 6, 1971; 66 FR 45390, Aug. 28, 2001; 68 FR 48572, Aug. 14, 2003; 68 FR 75763, Dec. 31, 2003]

§ 179.300–18 Stamping.

(a) To certify that the tank complies with all specification requirements, each tank shall be plainly and permanently stamped in letters and figures $\frac{3}{8}$ inch high into the metal of valve end chime as follows:

(1) DOT Specification number.

(2) Material and cladding material if any (immediately below the specification number).

(3) Owner's or builder's identifying symbol and serial number (immediately below the material identification). The symbol shall be registered with the Bureau of Explosives, duplications are not authorized.

(4) Inspector's official mark (immediately below the owner's or builder's symbol).

(5) Date of original tank test (month and year, such as 1–64 for January 1964). This should be so placed that dates of subsequent tests may easily be added thereto.

(6) Water capacity—0000 pounds.

(b) A copy of the above stamping in letters and figures of the prescribed size stamped on a brass plate secured to one of the tank heads is authorized.

§ 179.300–19 Inspection.

(a) Tank shall be inspected within the United States and Canada by a competent and impartial inspector as approved by the Associate Administrator of Safety, FRA. For tanks made outside the United States or Canada, the specified inspection shall be made within the United States.

(b) The inspector shall carefully inspect all plates from which tanks are to be made and secure records certifying that plates comply with the specification. Plates which do not comply with § 179.300–7 shall be rejected.

(c) The inspector shall make such inspection as may be necessary to see that all the requirements of this specification, including markings, are fully complied with; shall see that the finished tanks are properly stress relieved and tested.

(d) The inspector shall stamp his official mark on each accepted tank as required in § 179.300–18, and render the report required in § 179.300–20.

[29 FR 18995, Dec. 29, 1964, as amended at 72 FR 55696, Oct. 1, 2007]

§ 179.300–20 Reports.

(a) Before a tank is placed in service, the inspector shall furnish to the builder, tank owner, Bureau of Explosives and the Secretary, Mechanical Division, Association of American Railroads, a report in approved form certifying that the tank and its equipment comply with all the requirements of this specification.

(b) For builder's Certificate of Construction, see § 179.5 (b), (c), and (d).

[29 FR 18995, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 179–10, 36 FR 21355, Nov. 5, 1971]

§ 179.301 Individual specification requirements for multi-unit tank car tanks.

(a) In addition to § 179.300 the individual specification requirements are as follows:

DOT specification	106A500–X	106A800–X	110A500–W	110A600–W	110A800–W	110A1000–W
Minimum required bursting pressure, psig	(¹)	(¹)	1250	1500	2000	2500
Minimum thickness shell, inches	$\frac{13}{32}$	$\frac{11}{16}$	$\frac{11}{32}$	$\frac{3}{8}$	$\frac{15}{32}$	$\frac{19}{32}$
Test pressure, psig (see § 179.300–16)	500	800	500	600	800	1000